

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application.

**Listing of Claims:**

**Claim 1. (currently amended)** A method of leaching zinc from a zinc concentrate ~~by grinding the~~ comprising leaching a zinc concentrate in an aqueous solution containing free sulfuric acid and ferric ions, whereby elemental sulfur is deposited on the zinc concentrate, and grinding the zinc concentrate under atmospheric pressure in said aqueous solution to provide particles of the zinc concentrate having surfaces, wherein the elemental sulfur and other by-products which form on the surfaces of the particles of the zinc concentrate are stripped by said grinding.

**Claim 2. (canceled)**

**Claim 3. (canceled)**

**Claim 4. (currently amended)** The method according to any ~~one of claims claim 1 [[-3]], wherein which further comprises~~ supplying oxygen is supplied into the a post-leach solution containing ~~[[the]]~~ ferrous ions that result from ~~the~~ a reduction of said ferric ions during said leaching, whereby said ferrous ions are oxidized to ferric ions and ~~the~~ a solution containing said ferric ions is returned to said grinding ~~[[step]]~~.

**Claim 5. (currently amended)** The method according to any ~~one of claims claim 1 [[-3]], wherein which further comprises~~ supplying oxygen is supplied into a pipe through which said aqueous solution is transferred to said grinding ~~[[step]]~~, whereby the interior of said pipe is pressurized.

**Claim 6. (currently amended)** The method according to claim 4, ~~wherein which further comprises supplying oxygen is supplied~~ into a pipe through which said post-leach solution is returned to said grinding ~~[[step]]~~, whereby the interior of said pipe is pressurized.

**Claim 7. (currently amended)** The method according to any ~~one of claims~~ claim 1 ~~[[ -3 ]]~~, wherein the ~~concentration of~~ free sulfuric acid that is present in said aqueous solution at the end of the leaching is in a concentration which is controlled to be no less than 40 g/L, thereby preventing the formation of jarosite.

**Claim 8. (currently amended)** The method according to any ~~one of claims~~ claim 1 ~~[[ -3 ]]~~, wherein the ~~concentration of~~ ferric ions in said aqueous solution is in a concentration which is controlled to lie within the range of 5 - 60 g/L.

**Claim 9. (currently amended)** The method according to any ~~one of claims~~ claim 1 ~~[[ -3 ]]~~, wherein ~~the~~ a residue ~~remaining~~ remains after said leaching ~~[[ in ]]~~ which contains at least one metal element in said zinc concentrate that is selected from the group consisting of lead, gold and silver, the residue is concentrated and is subjected to flotation to recover said at least one metal element.

**Claim 10 (original)** The method according to claim 9, in which the float obtained by said flotation is heated to a temperature not lower than the melting point of sulfur, whereby the elemental sulfur in said float is evaporated and recovered.

**Claim 11. (currently amended)** A method of leaching zinc concentrates from a zinc concentrate which comprises the (a) carrying out a pressurized oxidation step of for oxidizing a ferrous ion-containing solution containing free sulfuric acid and iron ferrous ions in a pressurized oxidizing atmosphere to prepare an a ferric iron ion-containing[[,]] acidic solution and the (b) carrying out a first grinding and leaching step [[of]] for leaching zinc from a zinc concentrate as the latter zinc concentrate is ground in said iron ferric ion-containing[[,]] acidic solution, whereby elemental sulfur is deposited on the zinc concentrate by the leaching, to provide particles of the zinc concentrate having surfaces, wherein the elemental sulfur and other by-products which form on the surfaces of the particles of the zinc concentrate are stripped by said grinding.

**Claim 12. (currently amended)** A method of leaching zinc concentrates from a zinc concentrate which comprises the ~~(a) carrying out a~~ pressurized oxidation and leaching step ~~of for~~ oxidizing a ferrous ion-containing solution containing free sulfuric acid and ~~iron~~ ferrous ions in a pressurized oxidizing atmosphere at a temperature of 120°C or below to prepare ~~an a~~ ferric iron ion-containing acidic solution ~~which is used to leach zinc from a zinc concentrate and the~~ (b) carrying out a first grinding and leaching step, whereby elemental sulfur is deposited on the zinc concentrate, for ~~step of~~ leaching zinc from the resulting slurry ~~as the latter is ground and for grinding the zinc concentrate to provide particles of the zinc concentrate having surfaces, wherein the elemental sulfur and other by-products which form on the surfaces of the particles of the zinc concentrate are stripped.~~

**Claim 13. (currently amended)** A method of leaching zinc concentrates from a zinc concentrate which comprises the (a) carrying out a pressurized oxidation step ~~of for~~ oxidizing a

ferrous ion-containing solution containing free sulfuric acid and ~~iron ferrous~~ ions in a pressurized oxidizing atmosphere to prepare ~~an iron~~ a ferric ion-containing[[,]] acidic solution, the (b) carrying out a leaching step of for leaching zinc from a zinc concentrate by means of said iron in the ferric ion- containing[[,]] acidic solution, whereby elemental sulfur is deposited on the zinc concentrate and the (c) carrying out a grinding and leaching step of for leaching zinc from the resulting slurry as the latter slurry is ground to provide particles of the zinc concentrate having surfaces, wherein the elemental sulfur and other by-products which form on the surfaces of the particles of the zinc concentrate are stripped.

**Claim 14. (currently amended)** The method according to claim 11 or 13, which further includes an additional grinding and leaching step in which zinc is leached from ~~the~~ a slurry resulting from the first grinding and leaching step as the ~~latter~~ slurry is ground in said ~~iron~~ ferric ion-containing[[,]] acidic solution.

**Claim 15. (currently amended)** The method according to claim 12, which further includes an additional pressurized oxidation and leaching step in which the slurry from the first grinding and leaching step in the pressurized oxidizing atmosphere is oxidized to regenerate an iron-containing[[,]] acidic solution which is used to leach zinc from said slurry.

**Claim 16. (currently amended)** The method according to claim 15, which further includes an additional grinding and leaching step in which zinc is leached from ~~the~~ a slurry resulting from said additional pressurized oxidation and leaching step as the ~~latter~~ slurry is ground.

**Claim 17. (currently amended)** The method according to claim 11 or 13, wherein said pressurized ~~oxidation~~ oxidizing is performed at a ~~solution's~~ temperature of 90°C or higher.

**Claim 18. (currently amended)** The method according to claim 12, 15 or 16, wherein said pressurized ~~oxidation~~ oxidizing and leaching step and said additional pressurized oxidation and

leaching step are performed at a ~~solution's~~ temperature of 90  
[[-]] to 120°C.

**Claim 19. (currently amended)** The method according to any  
one of claims 11 [[-]] to 13, wherein the ~~concentration of~~ free  
sulfuric acid present in the slurry at the end of said leaching  
is in a concentration of 2 g/L or more.

**Claim 20. (currently amended)** The method according to any  
one of claims 11 [[-]] to 13, wherein the ~~concentration of~~ ferric  
ions in said ~~iron~~ ferric ion-containing[[,]] acidic solution is  
in a concentration of 2 g/L or more.

**Claim 21. (canceled)**

**Claim 22. (new)** The method according to claim 1, wherein  
the ferric ions in said aqueous solution are in a concentration  
of 5 to 15 g/L.

**Claim 23. (new)** The method according to claim 1, wherein the zinc concentrate is ground to a median particle size of 1 to 100  $\mu\text{m}$  and a 90% particle size of 50 to 1000  $\mu\text{m}$ .

**Claim 24. (new)** The method according to claim 1, wherein the free sulfuric acid has a concentration of 150 to 200 g/L.

**Claim 25. (new)** The method according to claim 1, wherein the ferric ions in the aqueous solution are in a concentration of 2 to 15 g/L.

**Claim 26. (new)** The method according to claim 11, wherein the pressurized oxidizing atmosphere is at a pressure of 0.7 to 1.0 MPa.